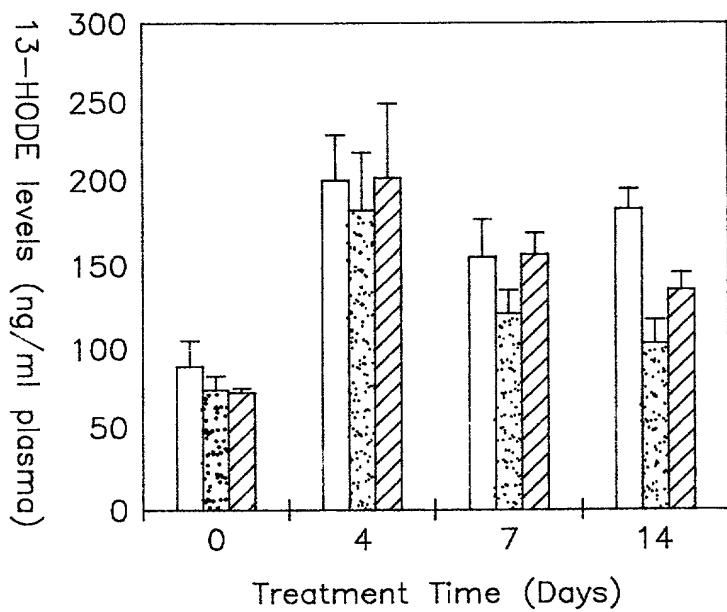
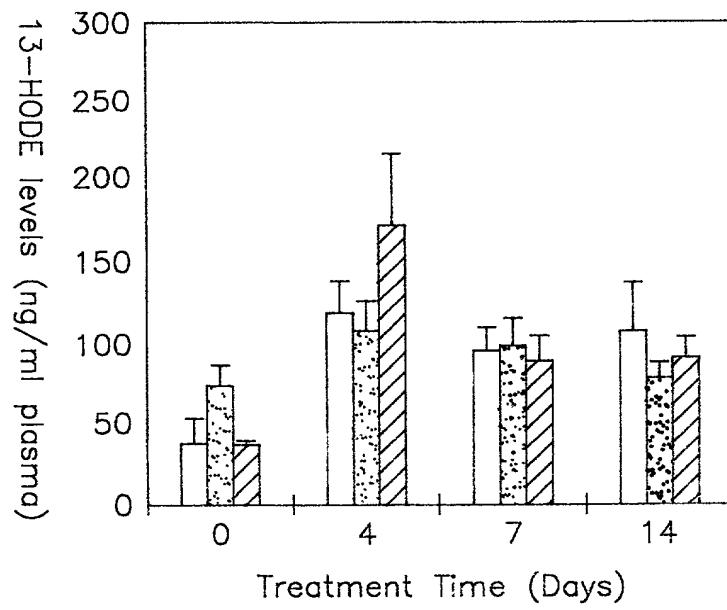


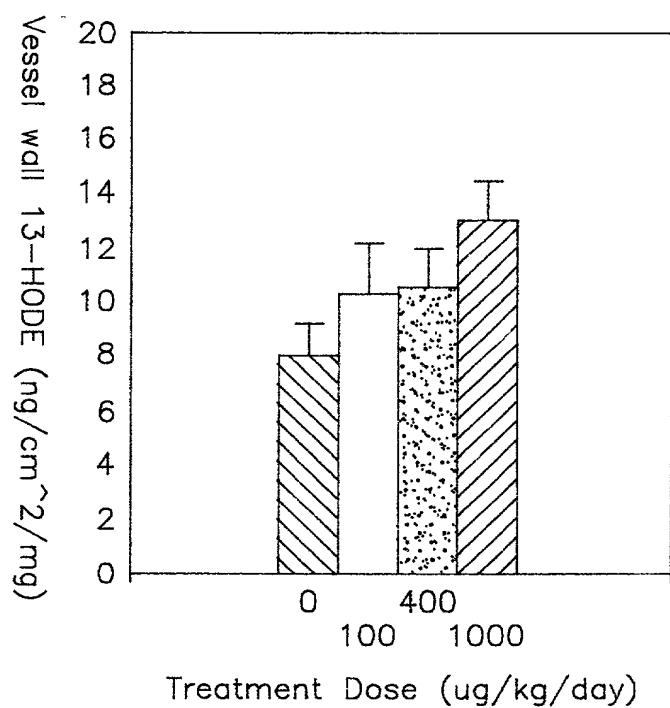
**FIG. 1**



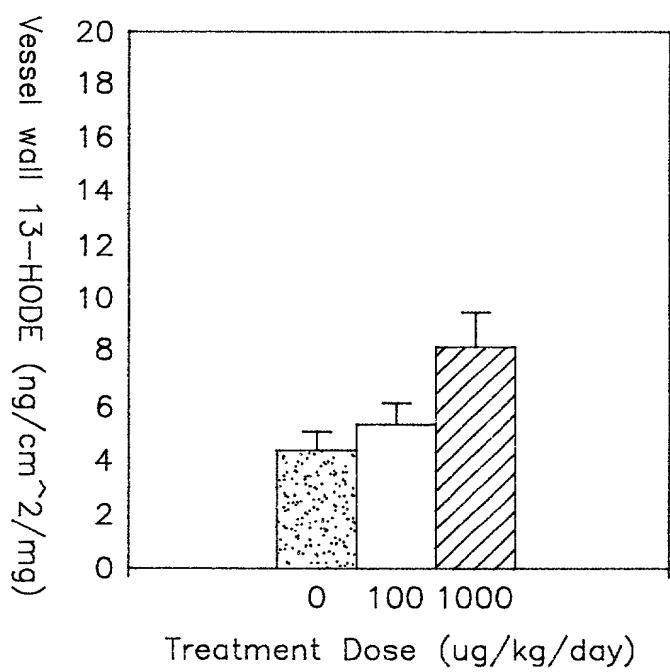
**FIG. 1A**



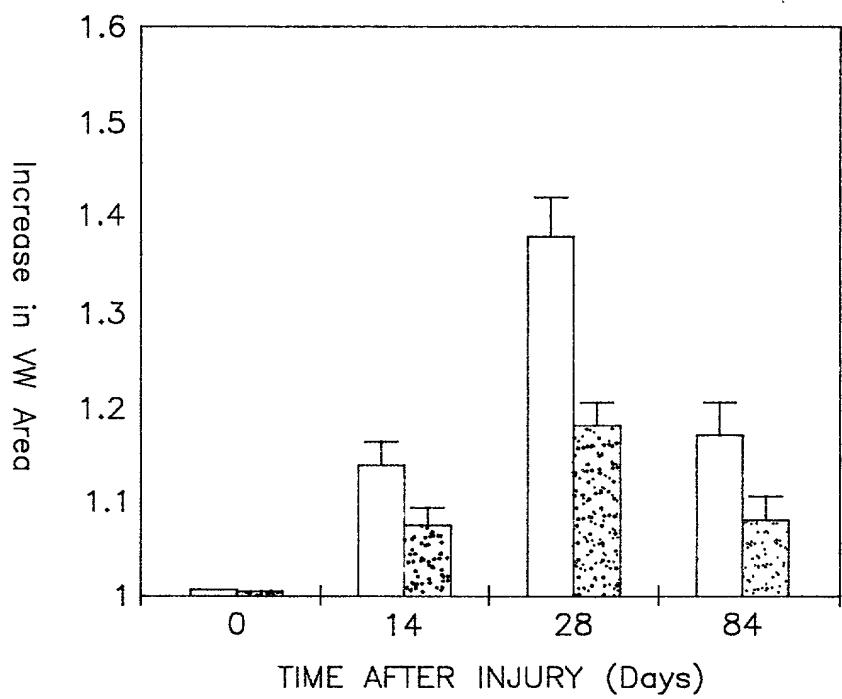
**FIG. 2**



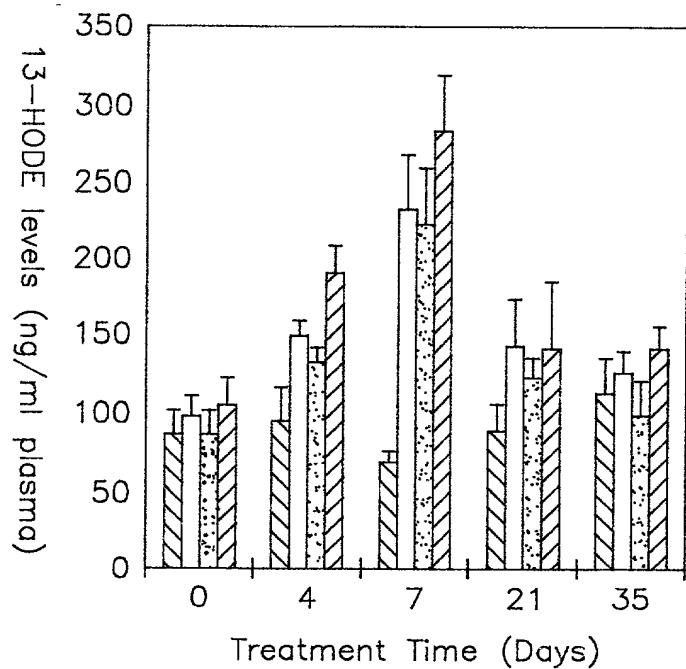
**FIG. 2A**



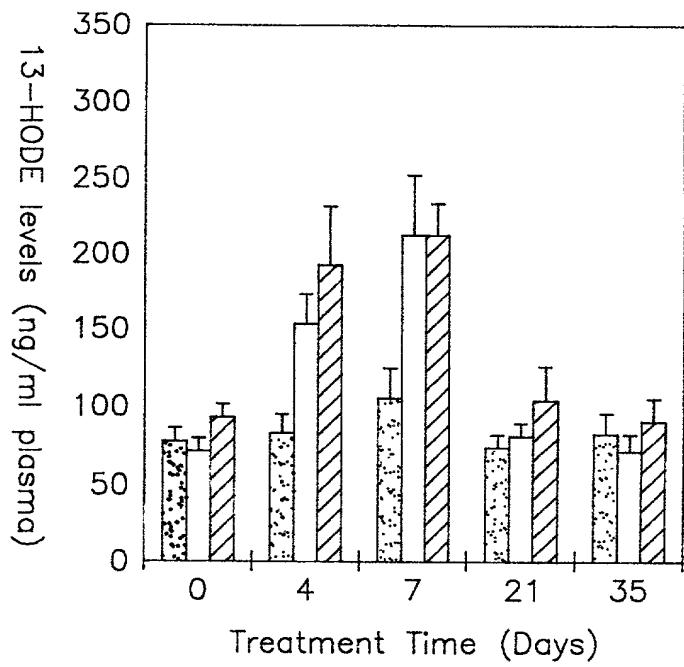
**FIG. 3**



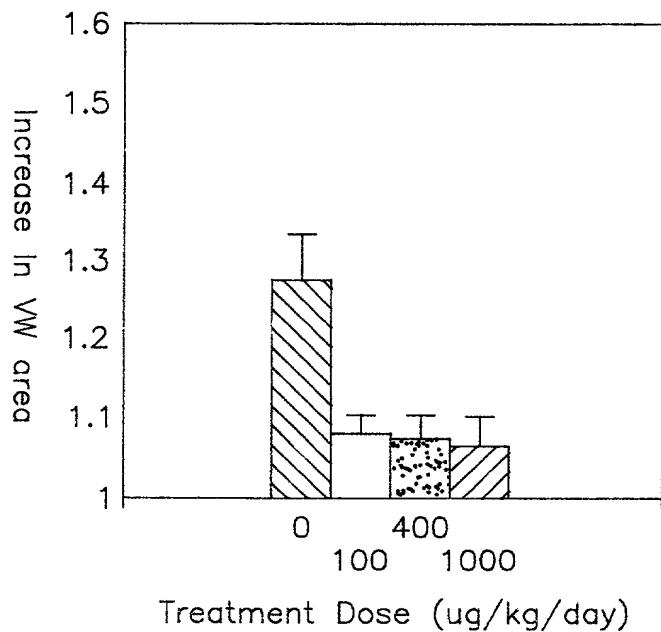
**FIG. 4**



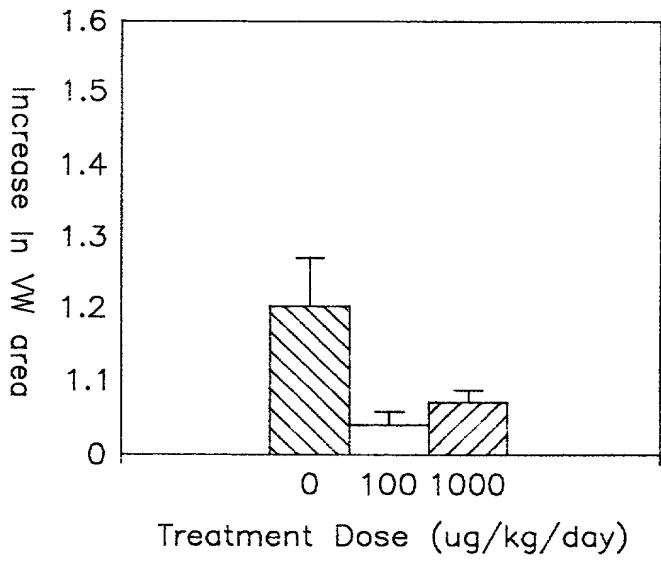
**FIG. 4A**



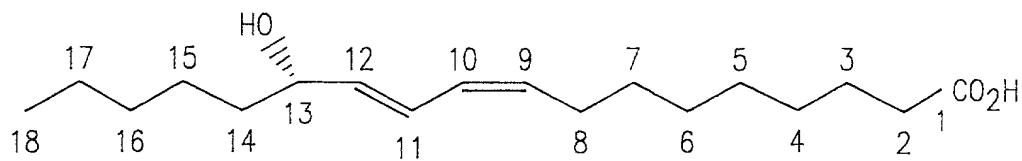
**FIG. 5**



**FIG. 5A**



## FIG. 6



Proton nmr spectrum (270MHz; CDCl<sub>3</sub>)

$\delta$ (ppm) 6.5(1H, dd, H<sub>11</sub>, J<sub>11,10</sub> = 11Hz, J<sub>11,12</sub> = 15.2Hz), 6.0(1H, t, H<sub>10</sub>, J<sub>10,9</sub> = J<sub>10,11</sub> = 11Hz), 5.7(1H, dd, H<sub>12</sub>, J<sub>12,11</sub> = 15.2Hz, J<sub>12,13</sub> = 6.8Hz), 5.4(1H, dt, H<sub>9</sub>, J<sub>9,8</sub> = 7.7Hz, J<sub>9,10</sub> = 10.8Hz), 4.1(1H, m, H<sub>13</sub>), 2.4(2H, t, H<sub>2</sub>, J<sub>2,3</sub> = 7.3Hz), 2.2(2H, m, H<sub>8</sub>), 1.6(4H, m, H<sub>3</sub>, H<sub>14</sub>), 1.3(14H, m, H<sub>17</sub>, H<sub>16</sub>, H<sub>15</sub>, H<sub>7</sub>, H<sub>6</sub>, H<sub>5</sub>, H<sub>4</sub>) and 0.9 (3H, t, H<sub>18</sub>, J<sub>18,17</sub> = 6.7Hz).

Carbon-13 nmr spectrum (67.8MHz, CDCl<sub>3</sub>)

$\delta$ (ppm) 179.3(C<sub>1</sub>), 135.6(C<sub>12</sub>), 132.6(C<sub>9</sub>), 127.8(C<sub>10</sub>), 125.8(C<sub>11</sub>), 72.9(C<sub>13</sub>), 37.1–22.4(C<sub>17</sub>, C<sub>16</sub>, C<sub>15</sub>, C<sub>14</sub>, C<sub>8</sub>, C<sub>7</sub>, C<sub>6</sub>, C<sub>5</sub>, C<sub>4</sub>, C<sub>3</sub>, C<sub>2</sub>) and 13.9(C<sub>18</sub>).

Infrared spectrum

3500–2500cm<sup>-1</sup> (broad O–H stretch) and 1709cm<sup>-1</sup>(C=O stretch)

Ultraviolet spectrum (ethanolic solution)

$\lambda_{\text{max}}=232\text{nm}$  ( $\epsilon \equiv 25,000 \text{ mol}^{-1} \text{ dm}^3 \text{ cm}^{-1}$ )

Soluble in ethanol, dichloromethane

Insoluble in hexane, water.